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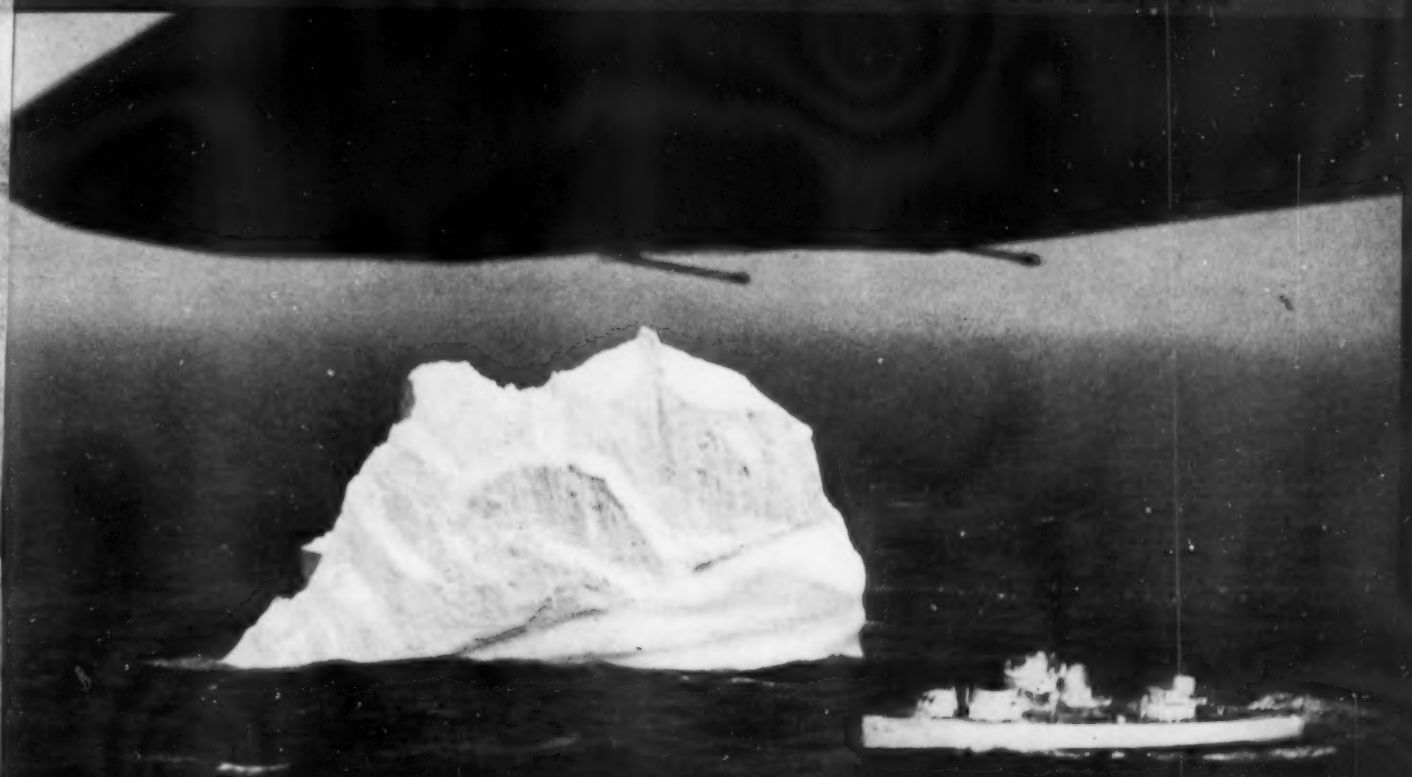
SCIENCE NEWS LETTER

THE WEEKLY SUMMARY OF CURRENT SCIENCE • JUNE 26, 1948



Ice Patrol

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MEDICINE

Cancer Victory Nearer

Important atomic advances such as increased destruction following injection of radioactive colloidal gold may benefit stricken patients in the future.

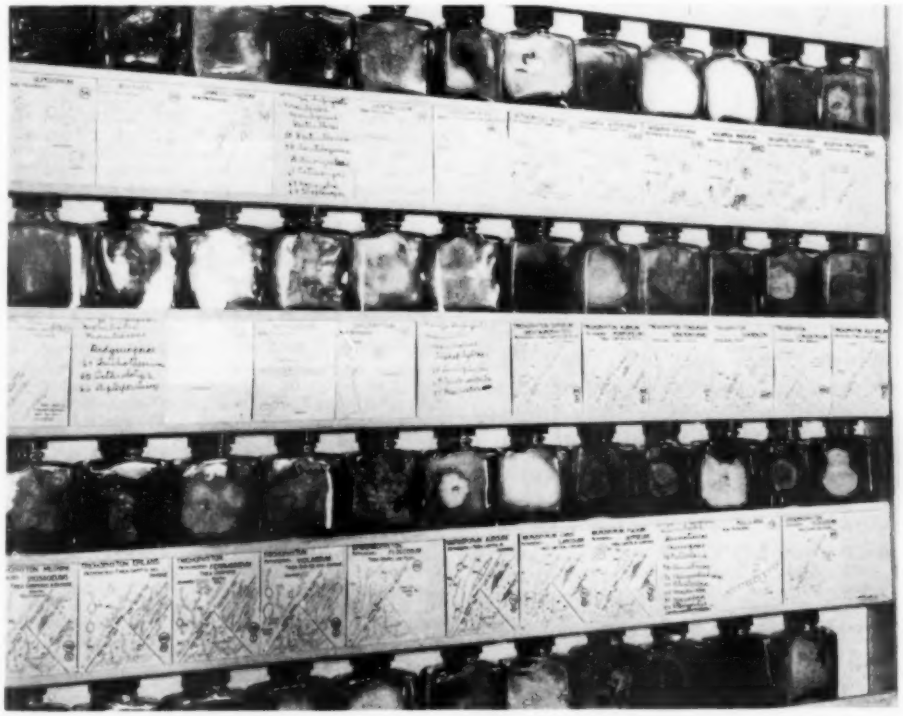
➤ VICTORY over cancer seems nearer in view of advances reported by Atomic Energy Commissioner Lewis L. Strauss to a Senate appropriations subcommittee.

Cancer patients, however, should be warned not to expect immediate benefits from these advances. They are important steps along the road to victory but there are still many obstacles to overcome.

One advance involves the injection of radioactive colloidal gold, from the atomic pile at Oak Ridge, directly into cancers. This brings cancer-destroying beta rays from millions of point sources, instead of from six or eight, into play on the cancer. It means increased cancer destruction with less damage to surrounding healthy tissue. Dr. Paul F. Hahn of Vanderbilt University, Nashville, who developed this method of cancer treatment, is as enthusiastic as any true scientist allows himself to be in the first stages of a new development. But he does not say he has a cancer "cure." More time must elapse before that can be determined.

Still far from application in cancer treatment but impressive in its possibilities is the second advance reported by Commissioner Strauss. This consists in successfully getting a cancer-destroying radioactive chemical to go directly to the part of the body desired, without any dangerous stops in healthy tissue. The success has been achieved in the case of one organ, the kidney, and so far applies only to rats, mice and rabbits. The chemical used is radioactive iodine. It is done by a kind of vaccination procedure. Advantage is taken of the fact that an animal will make antibodies to tissues of another species of animal when these get into the first animal's body. The antibodies are specific. If they are, for example, anti-rat kidney, they will go straight to the rat's kidney when injected into a rat. When mixed with radioactive iodine, they take this chemical along with them. The hope now is that the technic can be applied to directing radioactive chemicals to cancers in the human body. The work leading to this advance was done by Drs. David Pressman and Geoffrey Keighley of California Institute of Technology, now at Memorial Hospital's Sloan Kettering Institute in New York.

Science News Letter, June 26, 1948



***DISEASE-CAUSING FUNGI**—A complete laboratory is contained in this wall cabinet designed to provide doctors with a means of growing and identifying fungi as part of their office procedure in diagnosing ringworm, athlete's foot and other common fungus growths. It was designed by Dr. J. Walter Wilson, clinical professor of dermatology, University of Southern California Medical School, and Dr. Orda A. Plunkett, associate professor of botany, University of California, Los Angeles.*

MEDICINE

New Drug Under Trial As Possible TB Remedy

➤ TRIAL of a new drug as a possible remedy for tuberculosis is getting under way, Dr. Alfred Burger of the University of Virginia announced at the first national medicinal chemistry symposium sponsored by the American Chemical Society in Ann Arbor, Mich.

The drug is a Japanese cousin of quinine, called cepharanthine. Several drugs derived from quinine have been studied for possible use in tuberculosis but only cepharanthine has shown any promise, Dr. Burger said.

It was first isolated in Japan shortly before the war. It is now available in this country but since the studies have "barely started," no conclusions about its effectiveness can be drawn as yet.

Science News Letter, June 26, 1948

MEDICINE

Lung Peeling Operation Helps Some TB Patients

➤ NEW wrinkle in TB treatment is a lung peeling operation, reported by Dr. Paul V. O'Rourke of Detroit at the meeting of the National Tuberculosis Association in New York.

The operation consists in removing part or all of a membrane over the lung. Technically it is known as decortication, meaning literally the removal of the bark.

The peeling is done only when the lung is in a collapsed state. It is done to let the collapsed lung reexpand in cases where this is desired. An abnormally thickened membrane over the lung interferes with its reexpansion.

Science News Letter, June 26, 1948

MEDICINE

High Blood Pressure Aids

New drug from ergot helps to reduce blood pressure. Another effective aid is a nerve-cutting operation for patients with heart failure complications.

➤ A NEW drug for treating high blood pressure which looks "promising" in preliminary trials was announced at the Interamerican Cardiological Congress in Chicago.

The drug is called dihydroergocornine. It comes from ergot, drug long used to check hemorrhage in childbirth. Preliminary trials of it in patients with high blood pressure were reported by Drs. Ralph M. Tandowsky and Fred V. Cerini of Los Angeles.

Its action is based on functional blockage of sympathetic nerve impulses to the very smallest arteries. It is given daily by injection into a vein until the ideal blood pressure for the patient is reached. If results prove satisfactory it is then given in a liquid to be swallowed each day to keep the blood pressure at the desired level.

The new drug is not considered a cure for high blood pressure. The Los Angeles doctors call it a valuable aid in relieving the condition. It must be given with caution as it tends to be cumulative and this frequently agitates the patients with high blood pressure.

A nerve-cutting operation to reduce high blood pressure may, contrary to previous medical opinion, be helpful in patients whose high blood pressure is complicated by heart failure.

Definite improvement for a long period has been obtained in eight of 11 such patients operated on, Drs. Ignacio Chavez and Luis Mendez of Mexico reported.

Heretofore heart disease and especially heart failure have been considered definite signs against the operation, though patients with this complication are precisely the ones who most urgently need lowering of the blood pressure, the Mexican physicians pointed out.

When medical treatment failed, they were forced to operate on such patients, some of them in extreme heart failure.

The improvement in the eight patients who survived the operation has lasted from one to two and a half years without further sign of heart failure. Some of them have resumed normal life.

Science News Letter, June 26, 1948

ENGINEERING

Saving Cost in Houses

➤ Suggested methods for designing small houses to have adequate strength without the use of more material than necessary are described in a new bulletin of the National Bureau of Standards. The objective is to cut building costs.

This report was prepared as a result of extensive studies and tests made by Bureau staff members who approached the problem with the same type of engineering principles as are employed in designing bridges. Copies are available from the Superintendent of Documents, U. S. Government Printing Office.

Saving costs through saving material and labor should result from the study. Strength to withstand snow, wind, impact and other loads, both on the exterior and the interior, is a first consideration. Application of engineering principles to the design of houses presents a complete and logical method for determining allowable loads for walls, partitions, floors and roofs. The Bureau engineers followed the procedure of applying loads to specimens that accurately reproduce the most important structural parts of a house.

This approach permits the use of unconventional materials and unusual methods of construction. It determines the suitability for use of the many new types of building materials recently developed and available in panels or other forms for ready use in buildings.

Strength of houses in the past has been made adequate by patterning them after others that have stood the test of service conditions. They often have far greater strength, and include far more material, than is necessary. Present structures follow closely the traditional methods handed down from medieval England. From these traditions and building practices, building codes have been formed that stand in the way of what might be modern construction.

This engineering approach to strength of houses will, the Bureau believes, open the way for designers to introduce unconventional materials and unusual methods of fabrication through laboratory tests to determine whether the constructions possess adequate strength. The Bureau believes also that the method will shorten the time required to develop new houses and reduce construction costs.

Science News Letter, June 26, 1948

An American company is planning to build *motorized rickshaws* for China.

Boys incur 15% more *surgical operations* than girls, a study of 100,000 surgical cases shows.

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NAVIGATION

Science Tracks Icebergs

War-developed radar, loran and underwater sound equipment helped find and track bergs in North Atlantic shipping lanes during the 1948 season.

See Front Cover

➤ PATROL planes, surface vessels, radar, loran and war-developed underwater sound equipment all played important parts in locating and tracking icebergs in North Atlantic shipping lanes during the 1948 iceberg season. It is an example of war science in peacetime applications.

The American part of this ice patrol is a function of the U. S. Coast Guard, which has performed this service since February, 1914. It is carried out under an international agreement, signed in January, 1914, whereby an international derelict destruction, ice-observation, and ice-patrol service was set up.

During February and March this year, the U. S. Coast Guard used converted B-17 planes to search for icebergs while flying on long trips over the water. Then in the latter part of April surface craft began patrolling because foggy and overcast weather decreased the value of aerial surveying. The picture on this week's cover of the SCIENCE NEWS LETTER was taken from a B-17 plane.

These surface vessels used radar to detect icebergs invisible to the naked eye. The bergs reflect the radar pulses much as other objects do, and the icebergs register as "pips" or images on the radar scope or screen. Once found, their exact geographical location was determined by loran. This is a navigation system developed during the war by which a surface vessel or airplane determines its position by two radio beams from separated land-based stations that are picked up by a special craft-borne receiver which computes the location by an automatic triangulation process.

Positions of all detected icebergs were reported by radio to all vessels in the neighboring waters. Underwater sound equipment, similar to that used during the war to locate submerged U-boats, was also successfully employed to locate icebergs. The underwater sound waves sent out by the equipment attached to the bottom of patrol vessels received back echoes from the submerged part of the icebergs just as patrol warships received echoes from hidden submarines.

The Coast Guard, as a result of the 1948 patrol duty, predicts that 310 icebergs will this year drift south of latitude 48 degrees north, or approximately south of Newfoundland. This number, by comparison, is much less than the annual average of 431 bergs for the 48-year period 1900-1947. The trend this year is favorable to southward movement and off-shore distribution, indicating the probability of ice being a serious menace in the vicinity of traffic lanes to be considerably less than normal.

Science News Letter, June 26, 1948

AERONAUTICS

Thunderjet Fighter Now Equipped with Rockets

➤ EIGHT 140-pound rockets added to the six machine guns with which the plane is already equipped make the 600-mile-per-hour Air Force Thunderjet an unusually formidable combat weapon, recent tests in Aberdeen, Md., at the Army's proving grounds, prove. As a result of these rocket firing tests the plane with the new equipment is now approved for military operation.

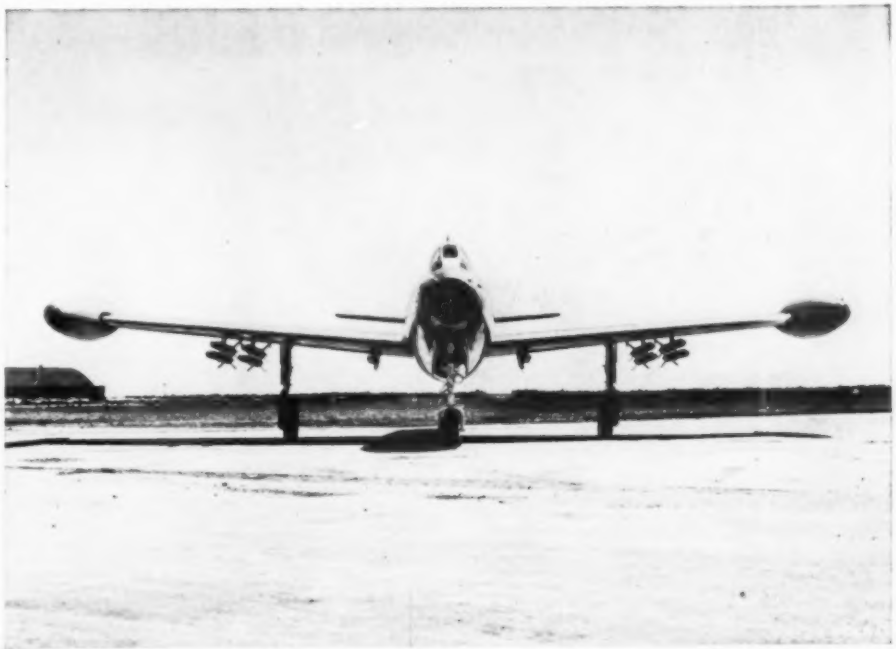
The Thunderjet is a fast, jet-propelled fighter plane built by Republic Aviation Corporation, Farmingdale, N. Y., with which the 14th Fighter Group at Dow Base, Bangor, Me., and the 20th group at Shaw Base, Sumter, S. C., are now completely equipped.

The eight rockets on the Thunderjet are carried four under each wing. They are fired individually by the pilot. During the tests here they were fired with a maximum velocity of 950 miles per hour from planes flying up to speeds of 500 miles an hour.

A unique feature of the rocket installation on these planes is the retracting rocket mounts. They automatically disappear into the wings when the rocket is fired. This eliminates speed-reducing obstructions under the wing after the rockets are on their way, permitting greater speed for get-aways.

The Thunderjet, one characteristic of which is its air in-take centered in its nose, is one of the Air Force's three production jet fighters. By the use of extra detachable fuel tanks carried on the tips of its wings, it has a range of over 1,000 miles.

Science News Letter, June 26, 1948



F-84 THUNDERJET—Eight, five-inch aerial rockets and six .50 calibre machine guns with 1,800 rounds of ammunition give this 600-mile-an-hour plane increased offensive power. After rockets are fired, the launching devices automatically retract to provide a streamlined wing surface.

MEDICINE

Hope for Heart Patients

Two anti-blood clotting chemicals, heparin and dicumarol, have been found to relieve the patient's heart condition and save lives.

➤ STRIKING improvement in the outlook for patients with a common form of heart disease comes from the use of two modern anti-blood clotting chemicals: heparin and dicumarol.

This is the verdict of a committee of the American Heart Association after reviewing the evidence in 800 cases. It is a verdict many physicians have been awaiting before daring to use the drugs for their own patients.

The committee's report was presented by its chairman, Dr. Irving S. Wright of New York, at the association's meeting in Chicago.

Treatment with these drugs, the committee recommends, "should be used in all cases of coronary thrombosis with myocardial infarction" unless there is a definite reason against it. A tendency to bleeding or hemorrhage would be one such reason.

Coronary thrombosis is the kind of heart disease in which one of the arteries of the heart muscle is plugged usually by a blood clot. Myocardial infarction is the damage to the part of the heart muscle that is not getting enough blood because of the artery stoppage.

The death rate and the number of complications in the way of repeated attacks of thrombosis during the first six weeks after an attack are "markedly lower" in patients treated with the anti-clotting chemicals than in patients treated by conventional means without these chemicals, the committee found.

The 800 patients in the study were under the care of 18 collaborating physicians in 16 different hospitals throughout the country. About half of them, those entering the hospital on the odd days of the month, received the anti-clotting chemicals. The others, entering on even days of the month, were given conventional treatment only. Age, sex and heart condition of patients in each group was about the same.

The chemicals act to relieve the heart condition by slowing the rate at which the blood clots. In using them, tests should be made daily to determine the clotting time of the blood. This precaution guards against giving too much of the chemicals, which might cause hemorrhage, and also is important for guiding the physician to give enough to help the patient.

The greatest saving of lives occurred in patients over 60 years, the committee found. But the treatment is valuable for younger patients in reducing the number of further attacks.

Science News Letter, June 26, 1948

PUBLIC HEALTH

Increase in Death Rate Is Predicted for 1975

➤ AN increase in the death rate during the next 25 years is predicted by statisticians of the Metropolitan Life Insurance Company.

By 1975 we shall have at least one and maybe four more deaths per 1,000 population each year than the present 10 per 1,000.

But the average American will be living longer than he does now, the statisticians figure. It is this increased life span, they explain, that will increase the death rate.

An increase in the average length of life means that there will be a larger proportion of older people in the population. This in turn will lead to a larger number of deaths per 1,000 population.

"If the present death rate of about 10 per 1,000 continued," the statisticians point out, "it would ultimately result in an average lifetime of 100 years. In the present state of our knowledge, to expect that the average person will live that long would be to indulge in wishful thinking.

"Actually, the average length of life in the United States is now close to 67 years. In a stationary population, the death rate corresponding to this figure would be about 15 per 1,000, a figure half again that currently being experienced."

Science News Letter, June 26, 1948

PSYCHOLOGY

Propaganda Can Change Your Mind on Voting

➤ YOU may know how you will want to vote next November, or think you know, but propaganda can change your mind.

Studies made at a men's college last fall and reported in the *Journal of Applied Psychology* reveal the importance of propaganda in voting. Opinions on an important campus issue at the time—subsidization of athletes—were shifted 46% by campaign leaflets.

Few people could be induced to change from a "yes" to a "no," most of the shift was toward a neutral point of view. People, it seems do not like to do a mental "about face," though they can be influenced to change their minds one step at a time.

R. W. Dietsch, Cleveland, Ohio, and Herbert Gurnee of Arizona State College, who conducted the survey, found that the majority of the students were strongly in favor of subsidization before leaflets which argued against it were distributed.

A vote taken later showed that support of the position was weakened, with a large swing being made to a neutral position.

The propaganda worked best with one leaflet. Series of three and then of five leaflets were also used. There was little change after the first series and even less after the second. The heavier propaganda proved to be worth neither the trouble nor the expense.

Science News Letter, June 26, 1948

DUTCH POST-WAR CAR—First since the war, the "Gatso" can travel, by use of extra gas tanks, 900 miles on one load of gas. Claimed to do "105 m.p.h.", the mileage secret is in overdrive and clever gear ratio. It is streamlined with a plastic top which is removable and sells for the equivalent of $4,200.

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(Errata on page 410)

ASTRONOMY

Vega Now Brightest Star

One of a trio of stars, it makes up a triangle with Arcturus and Deneb. They are glowing globes of gas, shining by their own light.

By JAMES STOKLEY

➤ BRIGHTEST star to be seen on the evenings of July is Vega, in Lyra, the lyre, which is in the eastern sky as indicated on the accompanying maps. These show the appearance of the heavens about 11 o'clock, daylight saving time, at the beginning of the month, and an hour earlier around the 15th. Vega is one of a trio of stars which make an easily located triangle. The others are Arcturus, in Bootes, the bear driver, lower and farther south; and Deneb, in Cygnus the swan, which is about as high and farther north.

Each of these stars is a glowing globe of gas, like our sun, shining with its own light. But three planets, shining by reflected sunlight, can also be seen these evenings. Only two appear on the maps, as one sets a little earlier. This is Saturn, in the constellation of Leo, the lion, of which only the hind quarters are shown. In the part below the northwestern horizon visible until perhaps 10 o'clock at the beginning of the month, is the bright star Regulus, and Saturn is near it.

Jupiter Brightest Planet

Jupiter is the brightest planet, and is seen in Ophiuchus, the serpent-bearer, in the southern sky. This figure is not one of the 12 constellations of the zodiac, through which the planets are commonly said to move. Considerably fainter is Mars, low in the west, in Virgo.

There are three other stars of the first magnitude, in addition to those already mentioned. One is Spica, in Virgo, the virgin. Another is Antares, in Scorpius, the scorpion, near Jupiter. The third is Altair in Aquila, the eagle, toward the southeast.

Late in the night other planets appear. Venus, so brilliant as an evening star during the winter and spring, has now shifted to the other side of the sun, becoming a morning star, visible in the east before sunrise. At the middle of July, it comes up about two hours ahead of the sun. On July 16, Mercury is farthest west of the sun, and around that date can be seen, below Venus, low in the eastern sky in the glow of dawn.

Although the earth revolves around the sun once every year, it seems as if the sun travels around us once in that period. As our planet stands in different directions from the sun, we see it in different directions—against an ever-changing background of more distant stars. Thus it traces out among the constellations an imaginary line called the ecliptic, which is actually the projection in the sky of the plane in which the earth moves.

Along Ecliptic Plane

Since the planets move in approximately the same plane, their motion, too, is nearly along the ecliptic. Of the planets visible to the naked eye, Venus can get as far away from it as 9 degrees, which is about 18 times the apparent diameter of the full moon; Mars about 7 degrees; Mercury 6 degrees; Saturn 3 degrees and Jupiter 2 degrees. Thus, a belt across the sky, 18 degrees wide, with the ecliptic marking its middle, forms the region in which the sun, moon and planets always appear. This is called the zodiac, or path of the animals, since most of the constellations in it are named after animals.

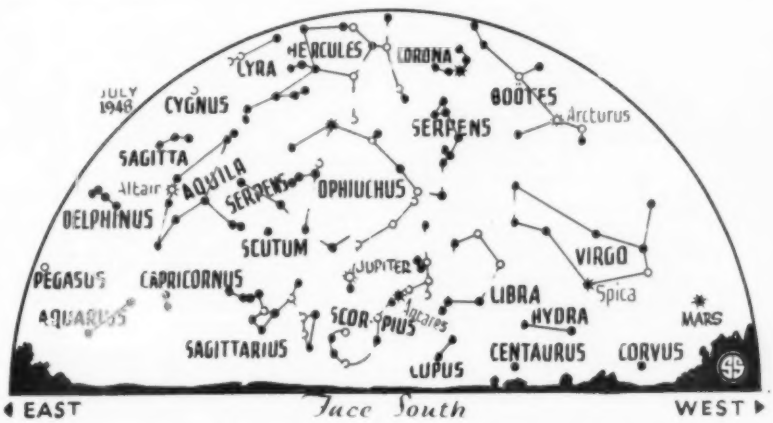
Ordinarily it is said that there are 12 constellations of the zodiac, namely, Aries, the ram; Taurus, the bull; Gemini, the twins; Cancer, the crab; Leo, the lion; Virgo, the virgin; Libra, the scales; Scorpius, the scorpion; Sagittarius, the archer; Capricornus, the sea goat; Aquarius, the water carrier and Pisces, the fishes.

However, as noted above, Jupiter during July is in the constellation of Ophiuchus, not officially a part of the zodiac even though it contains more of the ecliptic than does Scorpius. While they do not include any part of the ecliptic, the constellations of Orion, the warrior, Cetus, the whale and Auriga, the charioteer, also extend into parts of the zodiac. Thus, it is possible to see planets in any one of these groups.

All this helps make ridiculous the beliefs of superstitious persons that the planets and their positions in the sky have some mysterious effect on our lives, particularly the way they were arranged at the time of birth. Ophiuchus, Orion, Cetus and Auriga are not recognized, even though the planets can be in these as much as in any of the official 12.

Signs of Zodiac

Moreover, even the chosen dozen are not recognized, for what is considered is not the actual constellation. For such purposes, the zodiac is divided into 12 equal parts, called signs. Their names are the same as the formal zodiacal constellations, but they do not correspond to them. The sign of Aries, for example, is in the constellation of Pisces. There was a time, several thousand years ago, when the signs and constellations approxi-



SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

Do You Know?

During the past two centuries more than 100 kinds of *birds* have become extinct.

Using a *disinfectant* on handkerchiefs has been suggested as one step toward stopping the spread of the common cold.

Dipping the roots of sweet-potato plants in *charcoal,* when transplanting into soil that has been treated with 2,4-D to kill weeds, seems successful in protecting the crop from injury.

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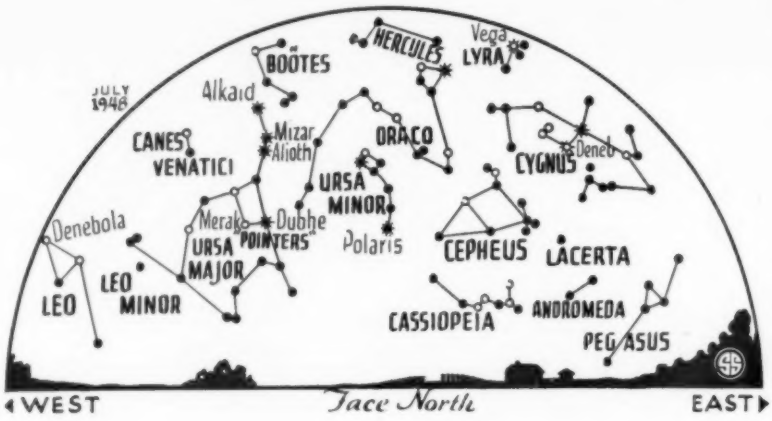

mately corresponded. Now, owing to a movement in the heavens called "precession" they have shifted and are getting farther apart all the time. Such superstitions, it seems, false at best, do not need to keep up to date!

Time Table for July

July	EDST	
4	1:00 p. m.	Earth farthest from sun, distance 94,456,000 miles.
5	12:07 p. m.	Moon passes Venus
	2:27 p. m.	Moon passes Mercury
6	5:09 p. m.	New moon
8	10:00 a. m.	Moon nearest, distance 224,500 miles
9	1:39 a. m.	Moon passes Saturn
11	11:51 a. m.	Moon passes Mars
13	7:30 a. m.	Moon in first quarter
16	4:00 a. m.	Mercury farthest west of sun
17	9:11 p. m.	Moon passes Jupiter
20	10:31 p. m.	Full moon
23	11:00 p. m.	Moon farthest, distance 252,200 miles
28	early a. m.	Meteor shower visible, radiating from constellation of Aquarius. (The bright moon will interfere considerably)
29	2:11 a. m.	Moon in last quarter
31	4:00 a. m.	Venus at greatest brilliancy.

Subtract one hour for CDST, two hours for MDST, and three for PDST.

Science News Letter, June 26, 1948

MEDICINE

Way to Lessen Ear Damage From Streptomycin Found

➤ INNER ear damage that sometimes is caused by streptomycin treatment might be prevented by desensitization, two Columbia University ear researchers reported at the meeting of the National Tuberculosis Association in New York. They are Dr. Edmund P. Fowler, Jr., and Carl R. Feind.

Since tuberculosis patients getting streptomycin treatment must take the drug for weeks or months, the dizziness and other symptoms from its toxic effects on the inner ear may be troublesome. Some patients are extremely susceptible, others very resistant to this effect of the drug. In rare cases the hearing mechanism is also affected, but this is often reversible.

In experiments with cats and salamanders, Dr. Fowler and Mr. Feind found that the toxic effect of streptomycin on the vestibular system of the inner ear can be modified by desensitizing the animals before giving a toxic dose.

Science News Letter, June 26, 1948

MEDICINE

New Drug for Epilepsy Shows Promise in Trials

➤ A NEW DRUG for epilepsy which has already proved itself in extensive clinical trials was announced by Dr. M. A. Spielman of Abbott Research Laboratories, North Chicago, Ill., at the first national medicinal chemistry symposium of the American Chemical Society in Ann Arbor, Mich.

The new drug is called Phenurone. It is a synthetic compound made from phenobarbital. Phenobarbital, one of the modern sleeping medicines, has itself been used to treat epilepsy.

Trials of the drug on patients were conducted by Dr. Frederick Gibbs of the University of Illinois College of Medicine, Chicago. He reported to Dr. Spielman that Phenurone showed considerable promise and can be widely applied to all three common types of epilepsy—petit mal, grand mal and psychomotor epilepsy.

Science News Letter, June 26, 1948

AERONAUTICS

15 Turbo-Prop Engines Being Developed by British

➤ FIFTEEN types of British gas-turbine-propeller engines for airplanes are either in actual use or in various stages of development, it is revealed by the Society of British Aircraft Constructors, Ltd. This type of engine, known as the turbo-prop, is a gas turbine which drives conventional propellers.

Great Britain claims her mounting achievements in turbo-props is giving her an established lead in this field, matching the claimed lead in the turbo-jet field. All of the engines under development may never reach the production stage, but the experimental work done will add to turbo-prop knowledge.

In the three years since the Trent-engined Meteor, the world's first turbo-prop powered airplane, took the air the carefully planned program of turbo-prop development has gone steadily on. One of the latest installations is that of an Armstrong Siddeley turbo-prop now used to power the Balliol Air Force trainer. This engine replaces a Mercury piston engine formerly used in this plane.

The Balliol is an all-purpose advanced service trainer and is designed to meet the training requirements of day or night flying, gunnery, navigation, bombing, photography and glider towing. Instructor and student sit side by side in a roomy cabin with a fine all-around view. This land-based plane can easily be adapted for carrier deck landings.

Science News Letter, June 26, 1948

AERONAUTICS-METEOROLOGY

Make Safe-Speed Charts

➤ SAFE-SPEED charts for airplanes in thunderstorms are the results of the so-called Thunderstorm Project carried out by the U. S. Air Force in the Ohio-Indiana area during the past two years. During the study especially equipped planes made 2,000 flights high above the earth within the thunderstorms themselves, and recorded all weather conditions encountered.

The research was made by Air Force crews in Air Force planes, under technical direction of the U. S. Weather Bureau. The National Advisory Committee for Aeronautics and the Navy furnished considerable meteorological equipment. The resulting charts, for use of pilots, show the airspeed limits within which nine types of transport and cargo planes of various weights can be most safely operated during thunderstorms.

The Air Force's Black Widow, the P-61, was the plane used in the studies because of its construction, stability and high-altitude performance. All planes were radar-equipped, and carried all sorts of instruments to record automatically all weather conditions encountered in flight, also stresses on the body of the plane and the electric content of the outside atmosphere.

Five planes were used as a team to study a single storm. Approaching thunderstorms were located by ground-based radar, which also kept track of the planes after their take-off. The aircraft entered the storms at altitudes of 6,000, 10,000, 15,000, 20,000, and 25,000 feet. This enabled the observers to get a complete picture of storm conditions at all altitudes at which military and commercial planes might operate. Instrument records, photographs and observers' notes were all used in making up the thunderstorm safe-speed chart.

Science News Letter, June 26, 1948

MEDICINE

Mass Screening Technic Aids Cancer Cure Search

➤ Search for a chemical cure for cancer is being aided by a mass screening technic similar to that used in the wartime search for anti-malaria chemicals to replace quinine.

The screening is being done by the CBCC, which is the short name for the Chemical-Biological Coordination Center in Washington. The CBCC is operated by the National Research Council with funds from the Army, Navy, National Cancer Institute and American Cancer Society.

Hundreds of thousands of chemical compounds, made by industrial, government and university laboratories, will be catalogued by mechanical minds and fingers in the CBCC machines for their biological activity.

Of some 4,000 already catalogued, 800 have been sent to collaborating university and government laboratories for testing as possible remedies against cancer and other diseases.

Science News Letter, June 26, 1948

ENGINEERING-RADIO

Radio Communications in Mines Found Successful

➤ LIVES of miners entrapped underground may be saved by a radio communication system, using low-frequency waves, developed by the U. S. Bureau of Mines. The human voice was successfully transmitted through ground strata alone, and also by way of trolley wires, pipes and other metallic installations.

Radio communication was made between the surface and underground workings, and also between widely separated points underground. Tests have been made in three bituminous mines, three anthracite collieries, a salt mine and an iron mine. These mines were located in both eastern and western mining districts.

The sending and receiving set used on the surface was run by a 110-volt current, and that underground by a 6-volt storage battery and a vibrator power pack. The power of the transmitter was two to three watts. In addition to successful communication between underground workings and the surface through the ground strata and between different points within the mines, communication was held between the hoisting engineer and moving or standing cages and cars in shafts and slopes.

Science News Letter, June 26, 1948

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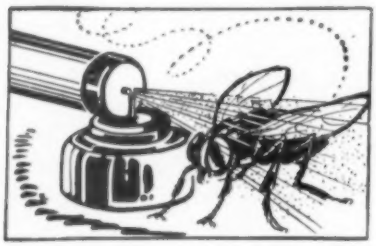
ENTOMOLOGY

NATURE RAMBLINGS
by Frank Thone



Fly Rhymes of the Times

➤ FLIES have not long been the objects of loathing and fierce hostility that they are now. Older persons still living can remember a time when few houses had screens, and when flies were regarded as nuisances only when too many of them drowned in the milk or got stuck in the butter on the table.

Individual flies were even regarded as interesting objects of natural-history study, like birds or squirrels. This attitude is well exemplified in the well-known but now happily obsolete nursery jingle beginning:

"Baby bye, here's a fly,
Let us watch him, you and I!"

About the turn of the century, when the fly's true nature as a feeder on filth and a carrier of disease germs became better known, it ceased to be regarded as a fit inmate of the nursery—or of anywhere else in the house. Fly-swatters began to sell heavily in the five-and-ten-cent stores, and some one revised the old rhyme to go:

"Baby bye, here's a fly,
Let us swat him, you and I!"

But swat-the-fly campaigns were soon demonstrated as inadequate by themselves to keep down the swarms of flies. Fly numbers in cities did diminish, but this was largely incidental to the development of the automobile and the disappearance from urban areas of manure piles, natural nurseries of flies. Some of the earlier insecticide sprays, based on pyrethrum and rotenone, were helpful, too.

Opportunity for a real cleanup came with the recent development of DDT as the killing ingredient of household sprays and area fogs. Where swatters slew their mere tens, DDT now slays its tens of millions. So the old jingle might well be revised again:

"Baby bye, here's a fly,
DDT him and he'll die!"

However, final victory in the war against flies depends not so much on the mass slaughter of adult insects as on mass prevention of their existence. This will come mainly from the cleaning up of their breeding-places in both city and country, plowing under of manure, burning or burial of garbage and other possible maggot-foods. When this has been accomplished, flies will become so rare that a final revision may be possible:

"Baby bye, here's a fly,
How the deuce did he get by?"

Science News Letter, June 26, 1948

Save-the-Redwoods

Send 10 cents each for these attractively illustrated pamphlets: "A Living Link in History," by John C. Merriam ... "Trees, Shrubs and Flowers of the Redwood Region," by Willis L. Jepson ... "The Story Told by a Fallen Redwood," by Emanuel Fritz ... "Redwoods of the Past," by Ralph W. Chaney. All four pamphlets free to new members—send $2 for annual membership (or $10 for contributing membership).

SAVE-THE-REDWOODS LEAGUE
250 Administration Building,
University of California, Berkeley 4, Calif.

MEDICINE

Community Bone Bank

➤ COMMUNITY bone banks, with deep freeze cabinets something like those in which families in many communities store food, will be established in the near future, if recommendations of Dr. J. R. Cobb of New York are followed.

Dr. Cobb's statement of the need for community bone banks to supply surgeons with bone grafts of every size and description appears in the *Journal of the American Medical Association* (June 12).

Good results in grafting bones from banks are reported in the same issue by Dr. Leonard F. Bush of Danville, Pa., and Dr. C. Zent Garber of New York.

In 104 bone graft operations, complications occurred in only four, they report. In 24 cases, the bone was grafted directly from donor to patient. In 37 it was grafted after being kept in a bank at a temperature slightly above freezing. In the other 43 cases, the bone had been stored in a deep freezer.

Science News Letter, June 26, 1948

Only the *driest areas* of America are free from poison ivy, poison sumac or poison oak.

ERRATA, Vol. 53, Nos. 1-26, January-June, 1948

PAGE	TITLE BEGINS	CORRECTION
6	Elm Disease Remedy	Col. 2, line 7, *to read* 47% of the crowns of the untreated trees; line 9, *to read* 29% of the crowns of the treated trees.
34	Fish Yield at Streams	Line 1, *to read* Adding farm fertilizer to a; Col. 2, line 1, Bank *for* water, two *for* three; line 4 *to read* Increases in the; line 5, were noted *for* took place.
38	Navy Doctors Join Safari	Col. 3, par. 5, line 6, Hoogstraal *for* Hoogstaal.
74-75	Planets Illuminate Sky	January maps used.
91	Canals Retain Importance	Col. 3, par. 3, lockless sea level canal, see SNL, 3, p. 207.
111	Sex Influences Malaria	Line 7, B. E. *for* B. F.
119	Vitamin E Relieves Pain	Par. 2, Line 1, after called *insert* a lesion of the; line 2, *delete* or Dupuytren's contracture. Line 4 *to read* a lesion of the palmar fascia, or Dupuytren's contracture.
149	Science Talent Institute	Col. 2, line 20, chemistry *for* medicine and physiology.
151	Caption	Chemistry *for* medicine and physiology.
164	Dr. Wendell M. Stanley	Chemistry *for* medicine and physiology.
172	Atomic Particle Created	Line 8, 400,000,000 *for* 400,000.
180	Mass Detection of Cancer	Line 5, Medical College *for* Hospital.
309	Caption	First sentence *to read:* Details of unstained guinea pig intestinal wall revealed by phase microscope. *For* invisible *read* unclear. Photograph by Department of Embryology, Carnegie Institution of Washington, Baltimore, Md.
342	Psychotics Have Defect	Col. 3, par. 4, line 1, after Cushing *insert* and Dr. Mary M. Cushing.
396	Plant Growth Compounds	Abdel-Malek *for* Abel-Malek.

Books of the Week

TO SERVE YOU: To get books, send us a check or money order to cover retail price. Address Book Dept., SCIENCE NEWS LETTER, 1719 N St., N. W., Washington 6, D. C. In the case of free publications order direct from issuing organization.

BACTERIAL BLIGHT OF COTTON UNDER CONDITIONS OF ARTIFICIAL INOCULATION—Richard Weindling—*Govt. Printing Office,* 59 p., illus., paper, 20 cents.

CALIFORNIA MINERAL PRODUCTION FOR 1946—C. V. Averill, C. R. King, Henry H. Symons and F. F. Davis—*California Division of Mines,* 176 p., illus., paper, 75 cents (plus tax for Calif. residents).

THE CHEMICAL FORMULARY: A Collection of Valuable, Timely, Practical, Commercial Formulae and Recipes for Making Thousands of Products in Many Fields of Industry, Volume VIII—H. Bennett, Ed.—*Chemical Publishing Co.,* 448 p., $7.00. Recipes for a great variety of things from lemon pie to waterproof matches.

CHEMISTRY OF THE CARBOHYDRATES—William Ward Pigman and Rudolph Maximilian Goepp, Jr.—*Academic Press,* 748 p., $10.80. A specialized monograph bringing together previously unassembled material of interest to chemists who are not specialists in the carbohydrate field.

CULTURAL GEOGRAPHY OF THE MODERN TARASCAN AREA—Robert C. West—*Govt. Printing Office,* 77 p., illus., paper, 75 cents. One of a series of monographs reporting results of joint investigations of the U. S. Institute of Social Anthropology and the Escuela Nacional de Antropologia of Mexico.

ESSAYS ON HISTORICAL MEDICINE—Bernard J. Ficarra—*Froben,* 220 p., illus., $5.00. Not a technical book, but one for the general reader.

FROM THE GROUND UP: Facts and Figures of the Mineral Industries of the United States—Paul M. Tyler—*McGraw-Hill,* 248 p., illus., $3.50. The important factual material necessary for establishing wise national policies concerning basic raw materials.

GENERAL AND APPLIED CHEMISTRY: A Brief College Course—Arnold J. Currier and Arthur Rose—*McGraw-Hill,* 275 p., illus., $3.00. Intended for students of agriculture, home economics and other applied sciences.

HANDBOOK OF SOUTH AMERICAN INDIANS, VOLUME 3: THE TROPICAL FOREST TRIBES—Julian H. Steward, Ed.—*Govt. Printing Office,* 986 p., illus., $4.50. A wealth of material about the indigenous peoples of South America and their customs, art, music and religion.

HEMOSTATIC AGENTS: With Particular Reference to Thrombin, Fibrinogen and Absorbable Cellulose—Walter H. Seegers and Elwood A. Sharp—*Thomas,* 131 p., illus., $4.75. Based on developments during the past few years.

THE JORNADA BRANCH OF THE MOGOLLON—Donald J. Lehmer—*University of Arizona Press,* 99 p., illus., paper, $1.25. Report of archaeological findings of excavations by the Arizona State Museum and the Museum of New Mexico.

NH_3: Ammonia, Its Uses and Properties—*Commercial Solvents Corp.,* 48 p., illus., paper. Free upon request on business letterhead directly to Commercial Solvents Corp., 17 East 42 St., New York City. General information on the use of ammonia in agriculture and industry.

NORTHWEST ARGENTINE ARCHAEOLOGY—Wendell C. Bennett, Everett F. Bleiler and Frank H. Sommer—*Yale University Press,* 42 p., illus., paper, $3.00. A review of literature in this field.

POWER AND PERSONALITY—Harold Dwight Lasswell—*Norton,* 94 p., $3.00. Pointing to the need for developing the democratic personality among our people and emphasizing the menace of a paranoid psychotic in a position of power. "All mankind might be destroyed by a single paranoid in a position of power who could imagine no grander exit than using the globe as a gigantic funeral pyre.

THE PSYCHOLOGY OF IMAGINATION—Jean-Paul Sartre—*Philosophical Library,* 285 p., $3.75. A philosophical work by a French novelist and playwright. Translated from the French.

REPORT OF THE FAO MISSION FOR POLAND—*Food and Agriculture Organization of the United Nations,* 159 p., illus., paper, $2.00. The mission studied the economic and technical problems involved in the rehabilitation and improvement of the food industries, which, they found, are in a state of emergency.

ROCKETS, GUNS AND TARGETS: Rockets, Target Information, Erosion Information, and Hypervelocity Guns Developed During World War II by the Office of Scientific Research and Development—John E. Burchard, Ed.—*Little, Brown,* 482 p., $6. An official record of Divisions 1, 2, and 3 of the NDRC.

THE THEORY OF MATHEMATICAL MACHINES — Francis J. Murray — *King's Crown,* Rev. ed., 139 p., illus., paper, $3.00. Contains new chapters on "Electronic Digital Computers" and "Noise, Accuracy and Stability."

Science News Letter, June 26, 1948

GENERAL SCIENCE

SNL Ranks Third in German Reprints of U. S. Articles

➤ OUT of the hundred American magazines that are cooperating with the U. S. Military Government in Germany by allowing their material to be reprinted in Germany, the SCIENCE NEWS LETTER ranks third in the number of times its articles are reprinted.

This is revealed in an account of the rebuilding of Germany's information media by Brig. Gen. Robert A. McClure and Col. Gordon E. Textor, former director and director, respectively, of the Information Control Division in Germany. (*Army Information Digest,* June 1948).

"As a service to the 379 licensed magazines currently appearing in Germany, a weekly dispatch of significant articles from the American press, as well as original background pieces, cleared for reprint, is sent to German publishers," the report says.

"A survey of reprinted material over a six-month period shows that articles on popular science are most widely preferred. Other subjects, in the order of their popularity, are: social and political science, agriculture, international affairs, education, the arts, religion, philosophy and psychology, and labor. Articles during this period were selected from 93 magazines and five books. More than 100 United States magazines have granted free reprint rights to all of their material. SENIOR SCHOLASTIC, a publication for American high school students, led the field with 17 reprints, followed by FARMER'S DIGEST, with 15; SCIENCE NEWS LETTER, with 12; and CATHOLIC NEWS and THE CHRISTIAN SCIENCE MONITOR, with 11 each. Still other periodicals with a high average included the NEW YORK TIMES MAGAZINE, the ATLANTIC MONTHLY, and the SATURDAY EVENING POST."

Science News Letter, June 26, 1948

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❁ *HOT OR COLD PACK, for treatment of bodily ailments, is a flexible vinylite plastic bag in three sections, each filled with a special liquid. Placed in a refrigerator, the liquid congeals to a cold, semi-solid state; placed in hot water, it quickly absorbs heat. In use, it remains cold or hot for a considerable period.*

Science News Letter, June 26, 1948

❁ *LABEL FOR MARKING plants and shrubs is a strip of thin soft white zinc metal which has a narrow extension with a sawtoothed edge to pass around the plant stem and stick through a slot on the label itself, where it is held by the teeth. The label can be inscribed with a special pencil.*

Science News Letter, June 26, 1948

❁ *HAIL-PROOF greenhouse is made of a translucent cloth over a simple framed construction, and contains no panes of glass as in ordinary greenhouses. The cloth is woven of fiber glass yarns and coated with a vinyl resin. This low-cost greenhouse, being tested in Florida, is found satisfactory.*

Science News Letter, June 26, 1948

❁ *PORTABLE FAN, claimed to deliver 87% more air than standard fans of the same size, is mounted on wheels, as shown in the picture, and can be shifted between a three-foot and a five-foot level. The design of the plastic blades of this 16-inch fan raises its capacity from 1,600 to 2,300 cubic feet of air a minute.*

Science News Letter, June 26, 1948

❁ *CUTTING BLOCK, for such fine materials as rayon and nylon fabric as well as other textiles, leather and paper, where the cutting is done by a guillotine-like machine, is made of a rubber-like plastic which can be made in various degrees of hardness and has excellent resistance to oils and chemicals.*

Science News Letter, June 26, 1948

❁ *FLUSHING BEDPAN can be used on the bed like a conventional bedpan or beside the bed as a commode or regular toilet. It is attached to built-in plumbing outlets by flexible expanding tubes and is portable as far as the lengths of the tubes permit.*

Science News Letter, June 26, 1948

❁ *COIN CASE, the size of the palm of the hand, holds coins of fifty cents and less each in its own compartment, its total capacity being $3.24. The case is made of a transparent plastic so that its contents can be noted without opening the cover.*

Science News Letter, June 26, 1948

❁ *NOTEBOOK SUPPORT for the stenographer is a flat plastic board with a comfortable clamp to fit over the crossed knee. On the knee, it swivels to any desired position, and it may be used as a stand when transcribing.*

Science News Letter, June 26, 1948

DDT Death Dealing Thing

For those who like to experiment, Science Service has assembled a kit containing five samples of the insecticide that is doing such an effective job in controlling disease pests.

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Question Box

AERONAUTICS-METEOROLOGY

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ENGINEERING

How can building costs be cut? p. 404.

MEDICINE

How can ear damage from streptomycin be prevented? p. 408.

What advances might make victory over cancer nearer? p. 403.

What are the latest high blood pressure aids? p. 404.

What is the new possible remedy for tuberculosis? p. 403.

What new hope is held out to heart patients? p. 406.

NAVIGATION

How are icebergs located and tracked? p. 405.

PSYCHOLOGY

What effect was propaganda found to have on voting? p. 406.

Photographs: *Cover, U. S. Coast Guard; p. 403, U. C. L. A.; p. 405, U. S. Air Force; p. 406, Hamilton Wright.*

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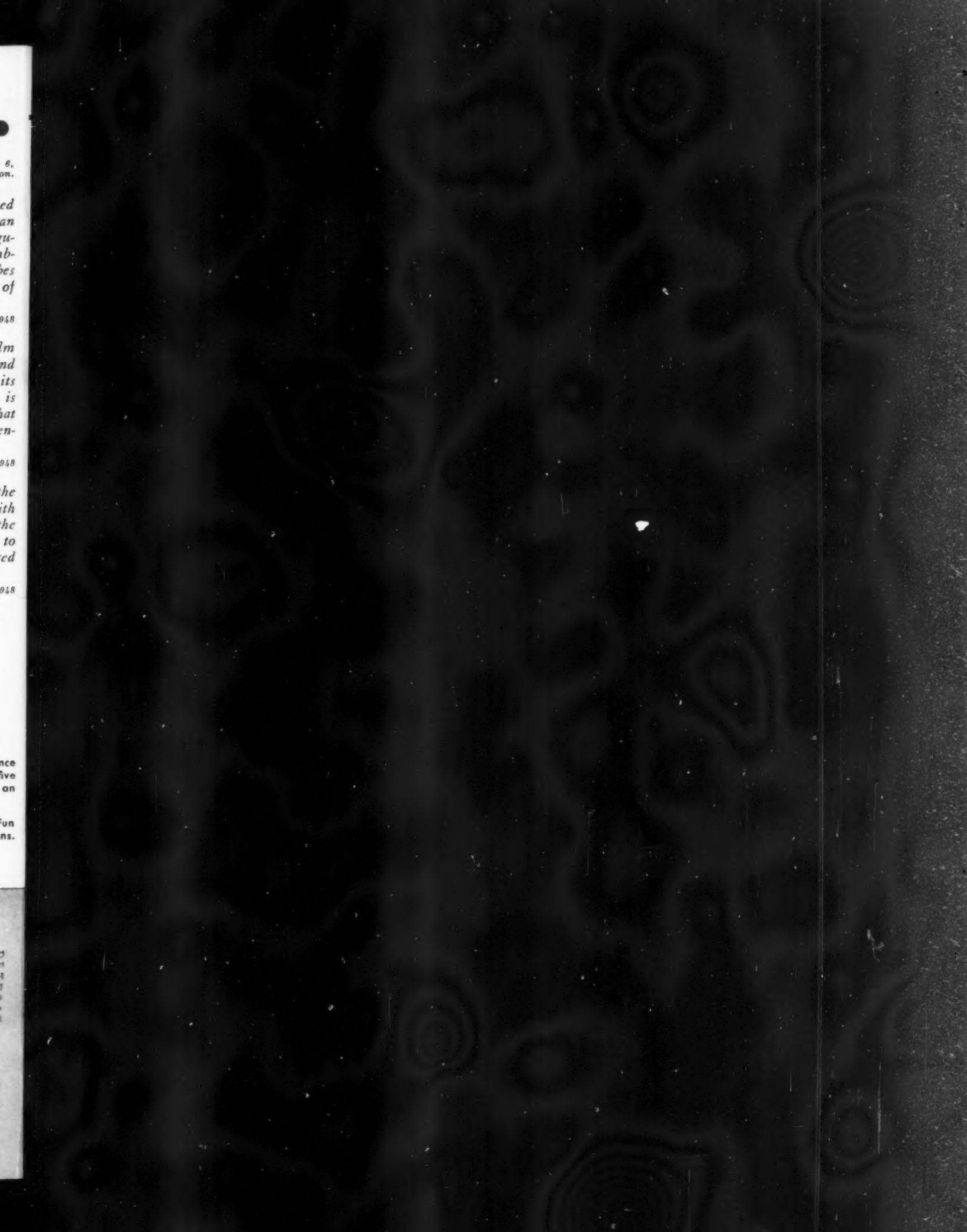
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